IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application of	)	
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YOSHIGI et al.	)	**Art Unit 2612**
	)	
Application Number: 10/773,405	)	**Examiner**
	)	**Bangachon, William L.**
Filed: February 9, 2004	)	
	)	
For: RFID	)	
	)	
Attorney Docket No. ASAM0110	)	

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF ONE SKILLED IN THE ART UNDER 37 C.F.R.§1.132

Sir:

I, Hiroshi Yoshigi am a co-inventor of the above identified application, and hereby declare as follows:

I have reviewed the above-referenced patent application and carefully considered the Examiner's rejection based upon US Patent No. 5,608,417 to de Vall (hereinafter "de Vall"), US Patent No. 6,522,308 to Mathieu (hereinafter "Mathieu") and a book entitled "Teach Yourself Electricity and Electronics, 2nd Edition". It is my conclusion that the prior art (including de Vall and Mathieu) use a parallel resonator, but not any series resonator, and the invention achieved "unexpected results" as discussed as follows via a series resonator, which was not intended, taught, or suggested by the cited references. Specifically, it is my opinion that someone of skill in the art would not be motivated to change the parallel resonator in Mathieu into a series resonator as suggested by the Examiner (attached sheet, line 9 of the Advisory Action).

The feature of the present invention is providing a "first capacitor 7 (1) connecting between an IC chip 3 and said antenna coil 1 *in series*, and (2) having a capacitance C1 smaller than an input capacitance Cin 3A of said IC chip 3 such that a reactance of the antenna, the capacitance of the fist capacitor 7 and the input capacitance of the IC chip 3 determine a resonant frequency of the contactless identification.

Mathieu's capacitance Cs2 of an antenna is connected in parallel with the internal capacitance Csl of the chip, and the capacitance Cs2 of the antenna is greater than the internal capacitance Csl of the chip (col. 4, lines 22-35). In short, Mathieu discloses that the capacitance Cs2 is greater than Cs1, and the resonant frequency f is defined $f=2\pi(L_sC_{s2})^{1/2}$, where the antenna capacitance is Cs2 and the antenna self-inductance is L_s. Therefore, if the resonant frequency is constant and the capacitance Cs2 is increased, the reactance Ls will inevitably decreases. As a result, the number of turns in the antenna winding has to be decreased such that the antenna cannot provide sufficient and necessary power.

In contrast, a contactless identification according to this invention is configured such that an antenna 1, a first capacitor 7 and a chip capacitor Cin3A are connected in series, and the first capacitor 7 has a capacitance C1 smaller than an input capacitance of the IC chip 3. With such a configuration, the capacitance C1 of the capacitor 7 dominantly functions (p. 6, line 17 to p. 7, line 12; p. 11, line 15 to p. 12, line 9). In this invention makes the capacitance of the dominantly functioning capacitor is smaller such that the number of turns of the antenna coil (winding) can be increased, thereby increasing the reactance of the contactless identification, and providing sufficient antenna power to support a sufficient communication distance.

The prior art (including de Vall and Mathieu) simply does not provide such motivation to address the problem to be solved. The prior art neither provide the above-discussed unexpected results in the context of RFID.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statement were made with the knowledge that willful false statements and the like so made are punishable by fine, or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-captioned application and any patent to issue thereon.

Respectfully submitted this 11th day of January, ~~2006~~ 2007

Kiroshi Yoshigi